STOR 155.8: Introduction to Statistics – Spring 2014

Prerequisite: Math 110 (or exemption) **Credits** 3

Meetings: Tuesday and Thursday 8:00 – 9:15 a.m. in Hanes 120

Instructor: Stefanos Kechagias	**Instructional Assistant:** Guan Yu
Office: Hanes Hall B48	**Office:** Hanes Hall B40
Email: stefanosk@unc.edu	**Email:** guanyu@email.unc.edu

Office Hours: My office hours tentatively are (at Hanes B48)

- Monday 14:30 - 15:30
- Wednesday 11:30 - 13:30

Instructional Assistant's OH: Thursday 10:30 – 11:30 a.m.

Textbook: *Introduction to the Practice of Statistics*, *7th Edition* by Moore, McCabe and Craig (2012) and the accompanying *supplemental Excel Manual* by Dr. Linda Myers, 2010 which will be posted on Sakai. A number of homework assignments will have an Excel portion.

- *Every Sunday the week's lecture slides will be posted on Sakai. Please print them out so you can follow the discussion in class.*
- *Do not bring laptop computers to class*

Grading: Case Study (5%), Homework (20%), Midterm I (20%), Midterm II (20%), Final (35%)

Case Study: This will be done by groups of 3–4 persons. You will need to come up with a good data set, either by collecting the data yourself or through online sources and analyze this data set using the techniques you have learnt in class. More details will be given in class.

Homework: Assignments will be posted after every class at our course site at Sakai and will be due a week later. Homework assignments will be collected at the *beginning* of the class. Unless otherwise stated, all homework will have equal weight in your final grade. **Late homework will not be accepted.** All homework assignments are required, but each student's lowest score will be discarded. **Missed homework will receive a grade of zero no matter what the reason.**

- You can discuss and work on the homework problems with your friends, but each student should write down his/her own solution and return it. Copying of homework is forbidden, and it is a violation of the Honor Code.
- You are encouraged to ask the Instructor for help on homework problems, after you have attempted to solve the problems on your own. The Instructor is available during office hours.
- Make sure that your name is printed one every page, while your section # (STOR 155.008), **as well as the assignment #** are written on the first page.
- Only turn in the Excel output corresponding to the template requested in the assignment. Do not turn in additional Excel worksheets or other output.
- To receive credit on homework, you must *show all your work neatly, clearly label each problem, circle your final answers, and staple the entire assignment together in the correct order.* Any homework violating these rules will receive a grade of zero for the entire assignment.

Open Tutorial Sessions: Sunday-Thursday, 7:00p.m. – 8:00 p.m. Hanes 107
These sessions tend to be very helpful so if you find any concepts covered in class hard, or are having trouble with the homework, I strongly urge you to attend them. Session leaders besides our IA are:

Jie Xiong	TBA	xiongj@email.unc.edu
Leicheng Yin	Hanes B33	lcyin@email.unc.edu
Alp Arslan	Hanes B09	arslan@live.unc.edu
Yu Zhang	Hanes B04	yuzhang@email.unc.edu
Eunjee Lee	Hanes B22	eunjee2@email.unc.edu
Suman Chakraborty	Hanes B01	sumanc@live.unc.edu

Exams: All exams are required and there will be no make-up exams. Missed exams will receive a grade of zero. All exams are closed-book and closed-notes, and no formula sheets are allowed. You will need to bring your calculator with you for all the exams. If you have 3 finals within a 24 hour period, and therefore you will need to be excused from the regularly scheduled final exam, then you must obtain a written Dean's excuse and discuss the situation with the instructor **at least three weeks** before the regularly scheduled final exam so that alternative arrangements can be made.

Exam Schedule:

- Midterm I: Tuesday, February 11 (regular class time)
- Midterm II: Thursday, March 27 (regular class time)
- Final: Tuesday, April 29 8:00 - 11:00 a.m.

Course Description-Syllabus: This is an introductory statistics course that will cover the following topics: Data analysis; correlation and regression; sampling and experimental design; basic probability (random variables, expected values, normal and binomial distributions); hypothesis testing and confidence intervals for means, proportions; use of spreadsheet software. The course will introduce the students to the Excel spreadsheet software.

Chapter	Sections	Descriptions
1	1,2	Describing data distributions: graphically and numerically
	3	Normal distributions
2	1,2,3,4	Describing data relationships
	6	Scatterplots, Correlation, Least square regression, Causation
3	1,2,3	Designing experiments, introductory statistical inference
4	1,2	Randomness, Probability models
	3,4	Random variables, mean and variances, distributions
5	1,2	Sampling distributions, Central Limit theorem for the sample mean
		Binomial distribution and sample counts
6	1	Introduction to statistical inference
	2,3	Confidence intervals, Tests of significance; use and abuse of tests
7	1	Inference for the mean using t-distribution
8	1	Inference for one population proportion

The professor reserves the right to make changes to the syllabus including project due dates and test dates (excluding the officially scheduled final examination), when unforeseen circumstances occur. These changes will be announced as early as possible so that students can adjust their schedules.

Honor Code: Honor code will be observed in this class at all times.

Administrative details:

- *All questions about course registration and waitlists should be directed to:*
  Mr. Christopher Schrieber (cschrieb@email.unc.edu, Room 321 in Hanes Hall, 962-2307).
- *Each student is responsible for verifying his or her own recorded score during the semester.*
- *This class will participate in the Carolina Course Evaluation*
- *Each student should feel comfortable approaching the Instructor with any problems he or she has with the course. If there is a problem which cannot be resolved with the Instructor or which you do not feel comfortable approaching the Instructor, you may confidentially contact Professor Shankar Bhamidi (office: 304 Hanes Hall, bhamidi@email.unc.edu).*

Checklist

☐ Have you read the handout and made a note of the important dates? (OH times, Exam schedules etc)

☐ Have you familiarized yourself with Sakai page, including various folders in the resources, assignments etc?

☐ Have you read the rules for turning in homework ('Show all work…')?

☐ Have you downloaded the Excel manual (see Excel resources under the resources section in the Sakai course website)? Homework assignments will ask you to read portions of this and then work through the Excel homework.

☐ Have you downloaded the Excel manual data sets **and** the Book data sets both available as zip folders (both can be found in the Excel resources folder)? The Excel manual refers mainly to data sets in the Excel manual data sets folder **but occasionally** refers to data sets from the book. Download and unzip in an appropriate location on your computer.

☐ **Mac users:** Have you read the suggestions for Mac users, available as Word file in the Excel resources folder? The main issue being activating the Data analysis tool pack in Excel.